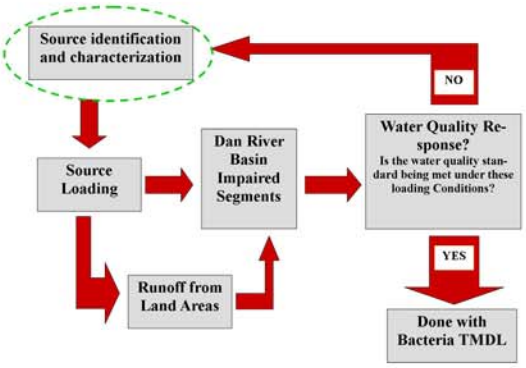
Bacteria Source Loading: Dan River Watershed

Bacteria Source Identification and Characterization

Bacteria Impairments

Impaired Stream	Boundaries	Impairment	Exceedence Rate
Blackberry Creek	Headwaters to Smith River	Fecal Coliform	3/20
Byrds Branch	Headwaters to Dan River	Fecal Coliform	3/9 & 4/9
Dan River	From Country Line Creek to Cherry Branch	*E. Coli*	3/13 & 5/13
Double Creek	Headwaters to Dan River	Fecal Coliform	3/28
Fall Creek	From Little Fall Creek to Dan River	Fecal Coliform	5/25
Leatherwood Creek	From Martinsville City intake to Smith River	Fecal Coliform	3/23
Marrowbone Creek	From Henry Co WWTP to Smith River	Fecal Coliform	4/29
North Mayo River	From Laurel Branch to VA-NC state line	Fecal Coliform	3/25 & 3/9
Sandy Creek	From headwaters to Little Sandy Creek	Fecal Coliform	5/25
Sandy River	From Hickory Forest Creek to Dan River	Fecal Coliform	7/25
Smith River	From Reed Creek to Martinsville Dam	Fecal Coliform	9/59
	From Martinsville Dam to Turkey Pen Branch	Fecal Coliform	6/35 & 6/35
South Mayo River	From Spoon Creek to VA-NC state line	Fecal Coliform	2/16

Bacteria TMDL Development Process



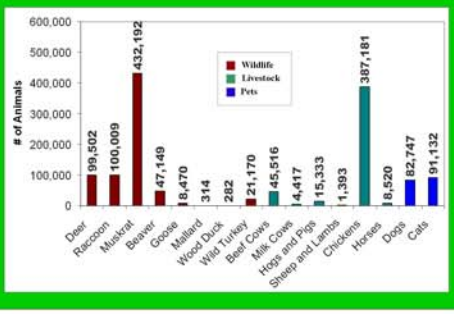
All animals produce different amounts of fecal coliform. This table provides the # of animals necessary to produce the amount of fecal coliform equivalent to 1 dairy cow.

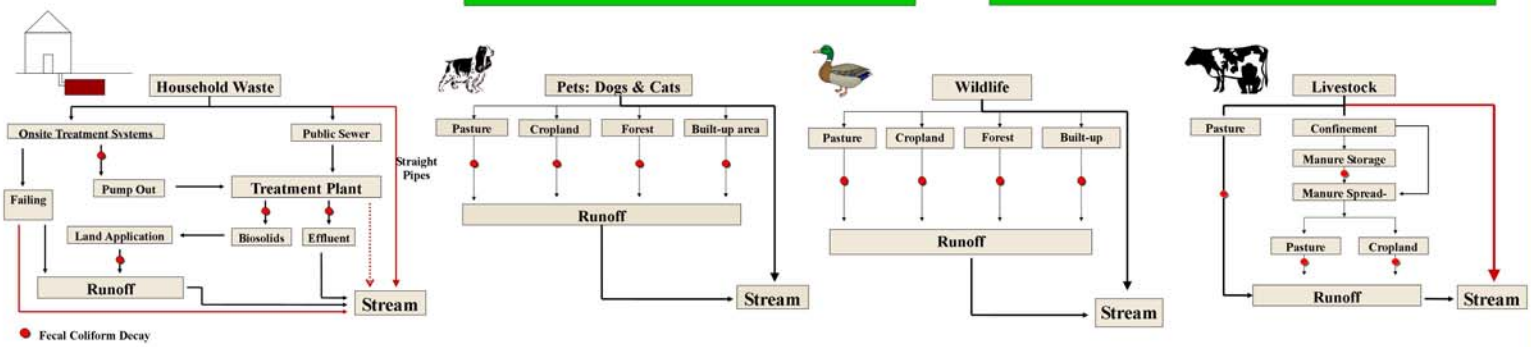
Animal	Waste Load (lb/an-day)	Fecal Coliform Density (cfu/ lb)	# Dairy Cow Equivalents
Dairy	120.4	1.23E+08	1
Beef	46.4	4.58E+07	7
Horse	51.0	4.26E+07	7
Swine	11.3	1.81E+08	7
Sheep	2.4	1.95E+07	316
Goat	5.7	6.80E+06	382
Broiler	0.2	2.66E+08	328
Layer	0.3	2.66E+08	214
Human	0.9	2.91E+08	58
Dog	1.0	2.18E+08	69
Cat	0.0	4.08E+03	84,765,882
Raccoon	1.0	9.53E+08	16
Muskrat	0.2	8.62E+08	78
Beaver	0.4	4.54E+05	74,001
Deer	1.7	1.72E+08	50
Turkey	0.7	6.04E+05	34,723
Goose	0.5	1.13E+08	263
Mallard	0.3	1.59E+06	28,191

Bacteria Sources

- Livestock
- Wildlife
- Pets
- Permitted discharge facilities
- Sanitary sewer systems
- Septic systems
- Land application of manure and biosolids

Animal Estimates





Bacteria Source Tracking Data (BST)

- BST sampling was conducted at 18 locations between January and December 2006
- The objective is to identify sources of fecal coliform:
  - Human - Livestock - Wildlife - Pet